

IN THE CLAIMS:

1. (Currently Amended) A compression fitting for rigid or semi-rigid pipes ~~[[in]]~~
composed of metal, rigid plastic material, or metal-plastic multi-layer, the compression fitting
comprising;

an internal element onto which ~~[[the]]~~ a pipe having a pipe wall is fitted, said internal
5 element having ~~and into which~~ at least one circumferential groove; ~~is machined and~~

an external sleeve ~~usually~~ having a substantially cylindrical shape with a cylindrical inner
surface and an external surface for positioning ~~is positioned~~ around ~~[[the]]~~ a portion of pipe
fitted on the internal element ~~and~~ and intended to be deformed by ~~for~~ radial compression such
that said external sleeve ~~[[to]]~~ deforms the pipe, whereby the pipe ~~so as to make its wall adheres~~
10 to the bottom of the groove, characterized in that wherein the width of said groove ~~on the~~
~~internal element~~ is greater than the thickness of the pipe wall and ~~[[its]]~~ maximum depth of said
groove is equal to at least a quarter of the thickness of the pipe wall, ~~and that the~~ said external
surface ~~[[wall]]~~ of the external sleeve ~~[[bears]]~~ comprising a circumferential protruding
grooving bead in corresponding with its ~~an area that is found in line corresponding~~ with the
15 groove of the internal element with interposition of the ~~wall of the~~ pipe wall, the width of said
grooving bead being less ~~[[at]]~~ than the width of the groove of the internal element and the
height of said bead being at least equal to the depth of the groove, said bead receiving radial
compression via ~~so that the compression of the sleeve by action of a cylindrical wall pressing~~
~~radially acts on the grooving~~ such that said bead ~~[[to]]~~ deforms the external sleeve with respect
20 to its cylindrical shape, whereby a portion of said external sleeve has a reduced internal

diameter, said portion of said external sleeve ~~in the sense of deforming the wall of the pipe wall~~
to penetrate said groove ~~of the internal element~~.

2. (Currently Amended) A fitting ~~Fitting~~ according to claim 1, ~~characterized in that~~
wherein the height of the grooving bead is between 1 and 1.5 times the depth of the groove;
~~preferably about 1.3 times the depth of the groove.~~

3. (Currently Amended) A fitting ~~Fitting~~ in accordance with claim 1, ~~characterized in~~
~~that~~ wherein the width of the groove is about 1.5 times the thickness of the pipe.

4. (Currently Amended) A fitting ~~Fitting~~ in accordance with claim 1, ~~characterized in~~
~~that~~ wherein a plurality of grooves are axially spaced along the internal element ~~is provided for~~.

5. (Currently Amended) A fitting ~~Fitting~~ in accordance with claim 1, ~~characterized in~~
~~that~~ wherein a seat is made at the bottom of the groove, in which an elastic seal ring gasket is
positioned.

6. (Currently Amended) A fitting ~~Fitting~~ in accordance with claim 1, ~~characterized in~~
~~that~~ wherein axial holding means of the extremity of the sleeve with the internal element are
provided, to identify their mutual positioning.

7. (New) A fitting in accordance with claim 1, wherein the height of said bead is 1.3 times the depth of the groove.

8. (New) A compression fitting for pipes, the compression fitting comprising:

a pipe having a defined pipe wall;

an internal element having an external surface, said external surface defining at least one circumferential groove;

5 an external sleeve having a substantially cylindrical shape with a defined cylindrical internal surface and a defined cylindrical external surface, said external sleeve being arranged around a portion of said pipe, said pipe being in contact with said external surface of said internal element and said cylindrical internal surface of said external sleeve, width of said groove being greater than thickness of said pipe wall, said groove having a maximum depth at least
10 equal to a quarter of the thickness of said pipe wall, said cylindrical external surface of said external sleeve defining at least one circumferential protruding bead in an area corresponding with said groove, width of said bead being less than width of said groove, height of said bead being at least equal to the depth of said groove, said bead being radially compressed such that said external sleeve are deformed, whereby a portion of said external sleeve deforms said pipe
15 wall, said pipe wall engaging said groove to connect said pipe to said internal element.

9. (New) A fitting in accordance with claim 8, wherein a portion of said external sleeve engages said internal element.

10. (New) A fitting in accordance with claim 8, wherein the height of the bead is between 1 and 1.5 times the depth of the groove.

11. (New) A fitting in accordance with claim 8, wherein the width of the groove is about 1.5 times the thickness of the pipe.

12. (New) A fitting in accordance with claim 8, wherein a plurality of grooves are axially spaced along the internal element.

13. (New) A fitting in accordance with claim 8, wherein a seat is made at the bottom of the groove, in which an elastic seal ring gasket is positioned.

14. (New) A fitting in accordance with claim 8, wherein the height of said bead is 1.3 times the depth of the groove.

15. (New) A method for producing compression fittings, the method comprising:
providing an internal element having an external surface, said external surface defining at least one circumferential groove;

connecting a pipe to said internal element, said pipe having a defined pipe wall;

connecting an external sleeve to said pipe, said external sleeve having a defined inner cylindrical surface and a defined external cylindrical surface, said pipe being arranged between

said inner cylindrical surface of said external sleeve and said external surface of said internal element, said external cylindrical surface of said external sleeve defining a circumferential protruding bead in an area corresponding with said groove, width of said groove being greater than thickness of said pipe wall, said groove having a maximum depth at least equal to a quarter of the thickness of said pipe wall, width of said bead being less than width of said groove, height of said bead being at least equal to the depth of said groove;

compressing said bead such that said external sleeve is deformed, whereby a portion of said external sleeve deforms said pipe wall, said pipe wall engaging said groove to connect said pipe to said internal element.

16. (New) A fitting in accordance with claim 15, wherein a portion of said external sleeve engages said internal element.

17. (New) A fitting in accordance with claim 15, wherein the height of the bead is between 1 and 1.5 times the depth of the groove.

18. (New) A fitting in accordance with claim 15, wherein the width of the groove is about 1.5 times the thickness of the pipe.

19. (New) A fitting in accordance with claim 15, wherein a plurality of grooves are axially spaced along the internal element.

20. (New) A fitting in accordance with claim 15, wherein a seat is made at the bottom of the groove, in which an elastic seal ring gasket is positioned.